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File 8:Ei Compendex(R) 1970-2002/Sep W3  
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File 34:SciSearch(R) Cited Ref Sci 1990-2002/Sep W4  
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File 63:Transport Res(TRIS) 1970-2002/Aug  
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(c) 2002 Elsevier Science Ltd.  
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(c) 2002 The HW Wilson Co.  
File 103:Energy SciTec 1974-2002/Aug B2  
(c) 2002 Contains copyrighted material  
File 108:AEROSPACE DATABASE 1962-2002/Aug  
(c) 2002 AIAA  
File 118:ICONDA-Intl Construction 1976-2002/Sep  
(c) 2002 Fraunhofer-IRB  
File 144:Pascal 1973-2002/Sep W4  
(c) 2002 INIST/CNRS  
File 238:Abs. in New Tech & Eng. 1981-2002/Sep  
(c) 2002 Cambridge Scient. Abstr  
File 292:GEOBASE(TM) 1980-2002/Sep  
(c) 2002 Elsevier Science Ltd.  
File 293:Eng Materials Abs(R) 1986-2002/Sep  
(c) 2002 Cambridge Scientific Abs  
File 323:RAPRA Rubber & Plastics 1972-2002/Nov  
(c) 2002 RAPRA Technology Ltd  
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec  
(c) 1998 Inst for Sci Info

Set	Items	Description
S1	25	AU='HUMES D C':AU='HUMES D W'
S2	0	S1 AND BICYCLE?
S3	25629	BICYCLE? OR BI()CYCLE?
S4	435	(THIRD OR ADDITIONAL OR AUXILLARY) (3N) (WHEEL OR TYRE OR TI-RE)
S5	1963641	ATTACH? OR AFFIX? OR COUPLE? OR COUPLING
S6	35722	PIVOT?
S7	507890	MOUNT?
S8	556401	ADJUST?
S9	17193	TRAILER?
S10	0	S3 AND S4 AND (S5 OR S7) AND (S6 OR S8)
S11	3	S3 AND S9 AND (S6 OR S7)

0912491 MA Number: 199211-61-0821

**Vehicle Carrier Bracket.**

Holliday, W B

Patent: US5129559, USA 27 Mar. 1991

14 July 1992

Journal Announcement: 9211

Language: ENGLISH

11/3,K/2 (Item 1 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

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08572524 Genuine Article#: 302LK No. References: 3

**Title: Tykes and bikes - Injuries associated with \*bicycle\*-towed child  
\*trailers\* and \*bicycle\*-mounted child seats**

Author(s): Powell EC (REPRINT) ; Tanz RR

Corporate Source: CHILDRENS MEM HOSP,DIV PEDIAT EMERGENCY MED, BOX 62, 2300  
CHILDRENS PLAZA/CHICAGO//IL/60614 (REPRINT); CHILDRENS MEM HOSP,DIV GEN  
ACAD PEDIAT/CHICAGO//IL/60614; NORTHWESTERN UNIV,SCH MED, DEPT  
PEDIAT/CHICAGO//IL/60611

Journal: ARCHIVES OF PEDIATRICS & ADOLESCENT MEDICINE, 2000, V154, N4 (APR)  
, P351-353

ISSN: 1072-4710 Publication date: 20000400

Publisher: AMER MEDICAL ASSOC, 515 N STATE ST, CHICAGO, IL 60610

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

**Title: Tykes and bikes - Injuries associated with \*bicycle\*-towed child  
\*trailers\* and \*bicycle\*-mounted child seats**

Abstract: Objectives: To describe the incidence, type, and severity of  
injuries related to the use of \*bicycle\*-towed \*trailers\* for  
transporting children and to compare them with injuries associated with  
the use of child seats \*mounted\* on adult \*bicycles\*.

Design: A retrospective analysis of data from the National

Electronic Injury-Surveillance System of the....

...2338 injuries; 95% confidence interval [CI], 1121-3555): 6 were  
associated with the use of \*bicycle\*-towed \*trailers\* (an estimated 322  
injuries; 95% CI, 158-486) and 43 were related to the use of \*bicycle\*-  
\*mounted\* child seats (an estimated 2015 injuries; 95% CI, 988-3042).  
The mean age of injured...

...A collision with a motor vehicle accounted for 2 (33%) of the injuries  
associated with \*bicycle\*-towed \*trailers\*; 3 (50%) of the injuries  
were the result of falls. A motor vehicle was involved in 4 injuries  
(9%) related to the use of \*bicycle\*-mounted child seats (Fisher  
exact test,  $P < .13$  vs \*bicycle\*-towed \*trailers\*); 31 (72%) were the  
result of falls (Fisher exact test,  $P < .26$  vs \*bicycle\*-towed \*trailers\*  
). Contact with a \*bicycle\* wheel or spokes was the mechanism of 1  
injury associated with the use of a \*bicycle\*-towed \*trailer\* (17%) and  
the mechanism for 8 (19%) of the injuries associated with the use of a  
\*bicycle\*-mounted child seat (Fisher exact test,  $P < .69$ ). The head or  
face was the most common site of injury, accounting for 5 (83%)  
injuries among those riding in \*bicycle\*-rowed \*trailers\* and 21 (49%)  
injuries among children in \*bicycle\*-mounted child seats (Fisher  
exact test,  $P < .12$ ). All 6 children injured in \*bicycle\*-towed  
\*trailers\* had contusions/abrasions or lacerations; 22 (51%) children  
injured using \*bicycle\*-mounted child seats had contusions/abrasions  
or lacerations and 9 (21%) had fractures. Two children (33%) injured in  
\*bicycle\*-towed \*trailers\* and 2 (5%) injured in \*bicycle\*-mounted  
child seats were admitted to the hospital (Fisher exact test,  $P < .06$ ).

Conclusions: When compared with \*bicycle\*-mounted child seats,

there were fewer reported injuries to children associated with the use of \*bicycle\*-towed \*trailers\*. Motor vehicle involvement and need for hospital admission were similar among injured children in both...

...injury. These data imply that ongoing surveillance efforts to identify injuries associated with use of \*bicycle\*-towed child \*trailers\* are warranted and that \*bicycle\* helmets should be worn by children riding in \*bicycle\*-towed child \*trailers\* and in \*bicycle\*-mounted child seats.

11/3,K/3 (Item 1 from file: 144)  
DIALOG(R)File 144:Pascal  
(c) 2002 INIST/CNRS. All rts. reserv.

14560816 PASCAL No.: 00-0227090

**Tykes and bikes: Injuries associated with \*bicycle\*-towed child  
\*trailers\* and \*bicycle\*-mounted child seats**  
POWELL E C; TANZ R R

Division of Pediatric Emergency Medicine, Children's Memorial Hospital, Chicago, Ill., United States; Division of General Academic Pediatrics, Children's Memorial Hospital, Chicago, Ill., United States; Department of Pediatrics, Northwestern University Medical School, Chicago, Ill., United States

Journal: Archives of pediatrics & adolescent medicine, 2000, 154 (4)  
351-353

Language: English

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**Tykes and bikes: Injuries associated with \*bicycle\*-towed child  
\*trailers\* and \*bicycle\*-mounted child seats**

Objectives: To describe the incidence, type, and severity of injuries related to the use of \*bicycle\*-towed \*trailers\* for transporting children and to compare them with injuries associated with the use of child seats \*mounted\* on adult \*bicycles\*. Design: A retrospective analysis of data from the National Electronic Injury Surveillance System of the...

... 2338 injuries; 95% confidence interval (CI), 1121-3555): 6 were associated with the use of \*bicycle\*-towed \*trailers\* (an estimated 322 injuries; 95% CI, 158-486) and 43 were related to the use of \*bicycle\*-mounted child seats (an estimated 2015 injuries; 95% CI, 988-3042). The mean age of injured...

... A collision with a motor vehicle accounted for 2(33%) of the injuries associated with \*bicycle\*-towed \*trailers\*; 3 (50%) of the injuries were the result of falls. A motor vehicle was involved in 4 injuries (9%) related to the use of \*bicycle\*-mounted child seats (Fisher exact test,  $P<.13$  vs \*bicycle\*-towed \*trailers\*); 31 (72%) were the result of falls (Fisher exact test,  $P<.26$  vs \*bicycle\*-towed \*trailers\*). Contact with a \*bicycle\* wheel or spokes was the mechanism of 1 injury associated with the use of a \*bicycle\*-towed \*trailer\* (17%) and the mechanism for 8(19%) of the injuries associated with the use of a \*bicycle\*-mounted child seat (Fisher exact test,  $P<.69$ ). The head or face was the most common site of injury, accounting for 5 (83%) injuries among those riding in \*bicycle\*-towed \*trailers\* and 21 (49%) injuries among children in \*bicycle\*-mounted child seats (Fisher exact test,  $P<.12$ ). All 6 children injured in \*bicycle\*-towed \*trailers\* had contusions/ abrasions or lacerations; 22 (51%) children injured using \*bicycle\*-mounted child seats had contusions/abrasions or lacerations and 9(21%) had fractures. Two children (33%) injured in \*bicycle\*-towed \*trailers\* and 2 (5%) injured in \*bicycle\*-mounted child seats were admitted to the hospital (Fisher exact test,  $P<.06$ ). Conclusions: When compared with \*bicycle\*-mounted child seats, there were fewer reported injuries to children associated with the use of \*bicycle\*-towed \*trailers\*. Motor vehicle involvement and need for hospital

admission were similar a g injured children in both...

... injury. These data imply that ongoing surveillance efforts to identify injuries associated with use of \*bicycle\*-towed child \*trailers\* are warranted and that \*bicycle\* helmets should be worn by children riding in \*bicycle\*-towed child \*trailers\* and in \*bicycle\*-\*mounted\* child seats.

English Descriptors: \*Bicycle\*; Personal injury; Passive transport; Seat; Adult; Multiple injury; Type; Risk analysis; Retrospective; Child

French Descriptors: \*Bicyclette\*; Accident corporel; Transport passif; Siege; Adulte; Polytraumatisme; Type; Analyse risque; Retrospective; Enfant

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File 350:Derwent WPIX 1963-2002/UD,UM &UP=200261

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File 344:Chinese Patents Abs Aug 1985-2002/Sep

(c) 2002 European Patent Office

File 347:JAPIO Oct 1976-2002/May(Updated 020903)

(c) 2002 JPO & JAPIO

File 371:French Patents 1961-2002/BOPI 200209

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Set	Items	Description
S1	11	AU='HUMES D C':AU='HUMES D W'
S2	0	S1 AND BICYCLE?
S3	35758	BICYCLE? OR BI()CYCLE?
S4	2120	(THIRD OR ADDITIONAL OR AUXILLARY) (3N) (WHEEL OR TYRE OR TI- RE)
S5	1816381	ATTACH? OR AFFIX? OR COUPLE? OR COUPLING
S6	346622	PIVOT?
S7	1497710	MOUNT?
S8	958974	ADJUST?
S9	25215	TRAILER?
S10	15	S3 AND S4 AND (S5 OR S7) AND (S6 OR S8)
S11	0	S10 AND S9
S12	130	S3 AND S9 AND (S6 OR S8)
S13	0	S12 AND S4
S14	1137	S9(3N) (S6 OR S8)
S15	12	S14 AND S3
?		

15/7/1 (Item 1 from e: 350)  
DIALOG(R)File 350:Derwent WPIX  
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014072809 \*\*Image available\*\*  
WPI Acc No: 2001-557022/200162

**\*Bicycle\* \*trailer\* hitch has hitch \*adjuster\* having first and second  
hitch adjuster plates whose relative positions can be changed to adjust  
height of hitch ball removably engaged to hitch adjuster**

Patent Assignee: SCHAFER D (SCHA-I); SCHAFER G L (SCHA-I)

Inventor: SCHAFER D; SCHAFER G L

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6290247	B1	20010918	US 2000496770	A	20000203	200162 B

Priority Applications (No Type Date): US 2000496770 A 20000203

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6290247	B1		8	B62K-027/12	

Abstract (Basic): US 6290247 B1

NOVELTY - A removable hitch ball is engaged to a hitch adjuster. The height of hitch ball can be adjusted by changing relative positions of the first and second hitch adjuster plates of the hitch adjuster. The hitch ball can be removed from a \*bicycle\* when it is not needed and replaced when needed by removing left and right hitch brackets (162,160) after removing or inserting clever pins (144).

DETAILED DESCRIPTION - The hitch adjuster is removably engaged to a hitch adjuster mounting plate removably engaged to left and right hitch brackets which are removably engaged to left and right hitch bracket receivers (142,140) respectively. The left and right hitch bracket receivers are removably engaged to the left and right frames (14) of the \*bicycle\*. Removable right and left brackets are fixed to the left and right frames. An INDEPENDENT CLAIM is also included for a fixing apparatus for removably fixing trailer to \*bicycle\*.

USE - For connecting trailer to \*bicycle\*.

ADVANTAGE - Simplifies the height adjustment between the hitch and trailer. Offers a trailer hitch that is rugged, adaptable to variety of trailers using a universal trailer ball, can be removed from the \*bicycle\* when not needed, and can be quickly and easily installed when required.

DESCRIPTION OF DRAWING(S) - The figure shows the left perspective exploded view of the hitch mount.

Left and right hitch bracket receivers (142,140)

Clever pins (144)

Left and right hitch brackets (162,160)

pp; 8 DwgNo 2/8

Derwent Class: Q23

International Patent Class (Main): B62K-027/12

15/7/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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011573710 \*\*Image available\*\*  
WPI Acc No: 1997-550191/199751

**One wheeled trailer for vehicle - has support section carrying load and  
pivotal in horizontal plane with respect to front section, and at least  
one wheel supporting trailer**

Patent Assignee: ANNANDALE C J (ANNA-I)

Inventor: ANNANDALE C J

Number of Countries: 002 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
AU 9718971	A	19971030	AU 9718971	A	19970418	199751 B
ZA 9702667	A	19980128	ZA 972667	A	19970327	199810
AU 706081	B	19990610	AU 9718971	A	19970418	199934

Priority Applications (No Type Date): ZA 963332 A 19960426

#### Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
AU 9718971	A		15	B62D-061/00	
ZA 9702667	A		14	B62D-000/00	
AU 706081	B			B62D-061/00	Previous Publ. patent AU 9718971

Abstract (Basic): AU 9718971 A

The trailer comprises a frame with a front section which is adapted to be connected to a vehicle to permit the \*trailer\* to \*pivot\* in a vertical plane. A 1. There is a tensioning member for applying a resistance to relative movement between the front and support sections.

The front section comprises a connection portion which is adapted to be rigidly connected to a vehicle and a pivot section which permits the support section to pivot in a vertical plane with respect to the connection portion. The front section comprises at least one elongate member pivotally connected to the connection portion.

USE - For transportation of machinery, boats, motorcycles, \*bicycles\* etc.

ADVANTAGE - Tilts with the tilt of the vehicle so that a stable condition obtains and the swivelling action ensures that the wheel or wheels follow the curvature of a road during cornering.

Dwg.1/5

Derwent Class: Q11; Q22

International Patent Class (Main): B62D-000/00; B62D-061/00

International Patent Class (Additional): B60D-001/30; B62D-063/06

15/7/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011448715 \*\*Image available\*\*

WPI Acc No: 1997-426622/199740

**Coupling for hitching trailer to \*bicycle\* - has fastener fixable to main bar of \*bicycle\* frame, having U-shape stirrup inserted into it, forming first joint axis at front end of trailer and having bearing providing second joint axis**

Patent Assignee: RAMGRABER G (RAMG-I)

Inventor: RAMGRABER G

Number of Countries: 001 Number of Patents: 002

#### Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 19705554	A1	19970828	DE 1005554	A	19970213	199740 B
DE 19705554	C2	20010920	DE 1005554	A	19970213	200154

Priority Applications (No Type Date): DE 96U2003247 U 19960223

#### Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19705554	A1		8	B62K-013/04	
DE 19705554	C2			B62K-027/12	

Abstract (Basic): DE 19705554 A

The coupling comprises a fastener (11) which is fixable to the \*bicycle\* (10) and to a joint (25) on the front end of the trailer (20). The joint can be connected to the fastener. The joint has a first axis which is horizontal, and perpendicular to the direction of travel, and a second axis which is vertical, perpendicular to the first.

The fastener can be fixed to the main bar of the \*bicycle\* frame. The fastener has two bores into which the two ends of a U-shaped fastening stirrup (12) are inserted. The web of the stirrup forms the

first axis of the joint. The joint contains a joint bearing, arranged at the front end of the trailer, which enables the \*trailer\* to \*pivot\* about the second axis.

ADVANTAGE - Is quick to connect and disconnect without tools, and makes a secure connection which does not become loose. Reduces assembly time and assembly costs.

Dwg.1/11

Derwent Class: Q22; Q23

International Patent Class (Main): B62K-013/04; B62K-027/12

International Patent Class (Additional): B62D-063/06; B62K-013/02

15/7/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011439626 \*\*Image available\*\*

WPI Acc No: 1997-417533/199739

**\*Bicycle\* trailer - has four box sides pivoted by respective lower edges to transporting platform, and locking system provided so that adjacent sides are detachably interconnected in upright position**

Patent Assignee: POSS F J (POSS-I)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 29708565	U1	19970821	DE 97U2008565	U	19970514	199739 B

Priority Applications (No Type Date): DE 97U2008565 U 19970514

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 29708565	U1		26		

Abstract (Basic): DE 29708565 U

All four box sides (8-11) of the \*trailer\* are \*pivot\*-connected by their respective lower edges to the transporting platform (1). A locking system is provided so that adjacent sides are detachably interconnected in their upright position.

A support (15) is provided, at least for one side (8), in order to increase the load bearing surface made available by the transporting platform when the sides are detached from one another to convert it into a seat or couch.

ADVANTAGE - The trailer has many applications in the leisure and travel fields, and can also be used to carry people.

Dwg.3/8

Derwent Class: Q15; Q22; Q23

International Patent Class (Main): B62K-027/00

International Patent Class (Additional): B60P-003/42; B62D-063/06;

B62K-027/02

15/7/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011100898 \*\*Image available\*\*

WPI Acc No: 1997-078823/199708

**Overrun brake for trailer on \*bicycle\* - incorporates cylinder in pivot mechanism with piston pushed inwards when \*bicycle\* decelerates**

Patent Assignee: BENDER B (BEND-I); HAZELETT S R (HAZE-I); TEAM TECHNOLOGY ENG & MARKETING GMBH (TEAM-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 29613898	U1	19970116	DE 96U2013898	U	19960810	199708 B



Priority Applications (No Type Date): DE 96U2013898 U 1996-02-20

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 29613898	U1		9	B62L-003/08	

Abstract (Basic): DE 29613898 U

The \*pivot\* for the \*trailer\* has a clamp (5a,b) firmly attached to the saddle tube (4) on the \*bicycle\* frame. A pin (6) passing through the clamp allows a coupling rod (3) to be attached or released.

When the \*bicycle\* decelerates, the coupling rod can slide further into the clamp and a piston rod (9) comes into contact with the end face of the clamp and pushes a piston into a cylinder. The space (7) in the cylinder behind the piston is filled with hydraulic fluid and this is pushed down a pressure pipe to actuate a clasp brake on the wheel of the trailer.

USE/ADVANTAGE - Simple braking system for \*bicycle\* trailer applies brake proportionally when brakes on \*bicycle\* are applied.

Dwg.3/3

Derwent Class: Q23

International Patent Class (Main): B62L-003/08

International Patent Class (Additional): B62K-027/12

15/7/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010522658 \*\*Image available\*\*

WPI Acc No: 1996-019611/199602

**\*Bicycle\* trailer hitch assembly and trailer - has clamp part for rotatably supporting seat with universal joint permitting pivoting having U-shaped member with cylindrical bight portion**

Patent Assignee: ADAMS D J (ADAM-I)

Inventor: ADAMS D J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5470088	A	19951128	US 93162330	A	19931207	199602 B

Priority Applications (No Type Date): US 93162330 A 19931207

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5470088	A		8	B62K-027/12	

Abstract (Basic): US 5470088 A

The trailer comprises a frame having at its one end a hitch assembly for connecting the \*bicycle\* trailer to a towing \*bicycle\* and at its other end a ground-engageable wheel. The hitch assembly comprises a clamp part for clamping non-rotatably to a seat supporting part, for example the seat post, of the towing \*bicycle\*, a universal joint portion fixedly attached to the trailer frame and a releasable fastening attaching the clamp part to the universal joint portion.

The universal joint portion permits \*pivoting\* of the \*trailer\*, in use, about generally vertical and horizontal axes which are spaced apart, preferably with the second pivot axis between the first \*pivot\* axis and the \*trailer\* frame. The clamp part may comprise a generally U-shaped member having a cylindrical bight portion and a bolt member extending through aligned holes in end portions of the U-shaped member to urge them together and clamp the seat supporting part. The holes may provide clearance for the bolt member as the end portions rotate relative to the bolt member during tightening of the bolt member.

ADVANTAGE - Accommodates different sizes of seat post so that the \*bicycle\* trailer may be towed by different \*bicycles\*. This so different members of a family can share the \*bicycle\* trailer or where the \*bicycle\* trailer is rented for short-term use.

Dwg.1/5  
Derwent Class: Q11; Q23  
International Patent Class (Main): B62K-027/12  
International Patent Class (Additional): B60D-001/14

15/7/7 (Item 7 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2002 Thomson Derwent. All rts. reserv.

010382687 \*\*Image available\*\*  
WPI Acc No: 1995-284001/199538

**\*Bicycle\* trailer hitch assembly - comprises clamp for attachment to seat supporting part of towing \*bicycle\*, with universal joint portion fixedly attached to trailer frame and having first and second pivot, with releasable fastener attaching clamp to universal joint portion**

Patent Assignee: ADAMS D J (ADAM-I)  
Inventor: ADAMS D J  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 2110621	A	19950604	CA 2110621	A	19931203	199538 B

Priority Applications (No Type Date): CA 2110621 A 19931203

Patent Details:  
Patent No Kind Lan Pg Main IPC Filing Notes  
CA 2110621 A 18 B62K-027/12

Abstract (Basic): CA 2110621 A

The hitch assembly comprises a clamp for clamping non-rotatably to a seat supporting part of the towing \*bicycle\*. It has a universal joint portion fixedly attached to the trailer frame and having first and second pivot axes permitting \*pivoting\* of the \*trailer\*. In use, about vertical and horizontal axes, respectively, the first and second pivot axes are spaced apart. A releasable fastener attaches the clamp to the universal joint portion. The second pivot axis is located between the first \*pivot\* axis and the \*trailer\* frame.

The clamp comprises a U-shaped member having a bight portion in the form of a cylindrical section and spaced end portions. The end portions have through holes aligned with each other. At least one bolt member extends through the holes to urge the end portions together and flex the U-shaped member into clamping engagement with the seat supporting part.

ADVANTAGE - Allows the \*bicycle\* trailer to be easily removable, pref. without tools, so that the \*bicycle\* can be used on its own. Also allows the hitch assembly to accommodate different sizes of seat post so that the trailer might be towed by different \*bicycles\*.

Dwg.2/5  
Derwent Class: Q23  
International Patent Class (Main): B62K-027/12

15/7/8 (Item 8 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
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008905149 \*\*Image available\*\*  
WPI Acc No: 1992-032418/199204

**\*Bicycle\* trailer with low interior compartment - in which child seat can be mounted, and has structural bars bounding trailer**

Patent Assignee: TODDLE TOTTER INC (TODD-N)  
Inventor: FAKE A K  
Number of Countries: 019 Number of Patents: 003  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
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US 5076600	A	1991121	US 90584119	A	19900918	9204	B
WO 9205041	A	19920402	WO 91US6670	A	19910918	199216	
AU 9187461	A	19920415	AU 9187461	A	19910918	199230	
			WO 91US6670	A	19910918		

Priority Applications (No Type Date): US 90584119 A 19900918  
 Cited Patents: FR 794900; US 2334387; US 3848890; US 4266793; US 4413835;  
 US 4756541; US 4798399

Patent Details:

Patent No	Kind	Lan	Pg	Main	IPC	Filing	Notes
WO 9205041	A	E	21				
Designated States (National): AU CA JP KP KR							
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL SE							
AU 9187461	A			B60D-001/32		Based on patent	WO 9205041

Abstract (Basic): US 5076600 A

The combination of a \*bicycle\* and a \*trailer\* includes a \*pivotal\* coupling between the \*bicycle\* and the trailer allowing for relative inclination of the trailer and \*bicycle\* about an horizontal axis transverse to the \*bicycle\* and turning movement of the trailer relative to the \*bicycle\* about an upstanding pivot axis stationary with the \*trailer\*. The \*pivot\* connection further includes structure, by which upon relative turning angular displacement of the \*bicycle\* and trailer of approximately 45 degrees, angular displacement of the upstanding axis of relative turning movement of the \*bicycle\* and trailer may not be freely pivoted about a horizontal axis transverse to the \*bicycle\*.

The trailer is of light weight construction and includes a low interior compartment in which at least one child's seat is mounted. The child's weight supporting seat area of the child's seat is disposed at an elevation below the axis of rotation of the trailer wheel and the rear wheel of the \*bicycle\*. The interior compartment of the trailer is bounded by structural bars of the trailer.

USE - For carrying small children on bike rides. (8pp Dwg.No.1/9

Derwent Class: Q11; Q23

International Patent Class (Main): B60D-001/32

International Patent Class (Additional): B62J-007/04

15/7/9 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008151051 \*\*Image available\*\*

WPI Acc No: 1990-038052/199006

**Trailer attached to \*bicycle\* - has adjustment between hitch and load support to vary angle of load support**

Patent Assignee: KOSTER H (KOST-I); KOESTER H (KOES-I)

Inventor: KOESTER H

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3923998	A	19900201	DE 3923998	A	19890720	199006 B
DE 3923998	C2	19950524	DE 3923998	A	19890720	199525

Priority Applications (No Type Date): DE 3825233 A 19880725; DE 3923998 A 19890720

Patent Details:

Patent No	Kind	Lan	Pg	Main	IPC	Filing	Notes
DE 3923998	A		7				
DE 3923998	C2		7	B62D-063/06			

Abstract (Basic): DE 3923998 A

The \*bicycle\* trailer has a bottom portion supporting the load and from which an inclined one slopes upwards and forwards in an L-shape.

The travel wheel axis is nearer to the forward end of bottom portion, and it has a detachable hitch to the \*bicycle\* rear end.

An adjustment (25) is provided between the load-supporting --portions (21,22) and the hitch (24), so as to vary the angle of the load support.

USE/ADVANTAGE - Trailer for \*bicycle\* allows ideal riding conditions with varying loads.

1/7

Abstract (Equivalent): DE 3923998 C

A lightweight trailer for a \*bicycle\* has a single-axled two-wheel support and a frame which is L-shaped when viewed from the side. The top of the frame has a variable angle extending grip bar (23) with a coupling (51) at the free end to couple to the fitting under the seat of the \*bicycle\*. The grip bar has a clamp grip on the top of the trailer frame to set at different angles.

The trailer frame has telescopic sides to extend the length to match the load being carried. The angle of the \*trailer\* is \*adjusted\* to balance the load and obtain a stable ride. This allows long items to be carried at a steep angle and close to the rear of the \*bicycle\*.

USE/ADVANTAGE - \*Adjustable\* \*trailer\* to suit load being carried.

Dwg.6/7

Derwent Class: Q11; Q22

International Patent Class (Additional): B60D-001/00; B62D-063/06

15/7/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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004462950

WPI Acc No: 1985-289828/198547

**Single-wheel \*bicycle\* trailer - has height from box bottom to wheel centre one quarter of box length**

Patent Assignee: TESTROET A (TEST-I)

Number of Countries: 010 Number of Patents: 011

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
BE 902815	A	19851104	BE 902815	A	19850704	198547 B
GB 2161119	A	19860108	GB 8515599	A	19850620	198602
DE 3523652	A	19860116	DE 3523652	A	19850702	198604
PT 80764	A	19860120				198608
FR 2567094	A	19860110				198609
NL 8501914	A	19860203				198609
ZA 8504106	A	19851218	ZA 854106	A	19850530	198613
BR 8503071	A	19860311				198616
CN 8505349	A	19870114				198807
GB 2161119	B	19880615				198824
IT 1200649	B	19890127				199119

Priority Applications (No Type Date): ZA 845107 A 19840704

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
BE 902815	A		9		

Abstract (Basic): BE 902815 A

The \*bicycle\* trailer comprises a load transport box with a wheel on a horizontal axis at the rear end. There is a towbar at the front extending upwards and forwards to a hitch allowing pivoting movement about two axes at right angles to each other.

The height (A) from the box bottom to the wheel centre is between one-quarter and one-sixth of the box length (B), and between one-third and one-quarter of the height from the box bottom to the level of the hitch (C). It is no greater than one-third of the horizontal distance (D) from box front to hitch. The ratio of the box ground clearance (E) to the height (A) is between 1:1.3 and 1:1.7.

ADVANTAGE - Stability at relatively high speeds, does not affect manoeuvrability

1/3

Abstract (Equivalent): GB 2161119 B

A single-wheeled trailer for a two-wheeled vehicle, the trailer comprising a body member capable of carrying a load and having a front end and a rear end; a wheel mounted for rotation about a substantially horizontal axis at the rear end of the body member; a connection member at the front end of the body member extending generally upwardly and forwardly of the body member and provided, at its upper end, with means for coupling the trailer to a draught vehicle, which coupling means permits \*pivotal\* movement between the \*trailer\* and a draught vehicle about a first axis which is substantially horizontal and a second axis which is substantially perpendicular to the first axis; characterised in that the following ratios between the lengths indicated by 'A-E' in Figure 1 of the accompanying drawings apply:-(i) the ratio A : B is from 1 : 4 to 1 : 6; (ii) the ratio A : C is from 1 : 3 to 1 : 4; (iii) the ratio A : D is not greater than 1 : 3; and (iv) the ratio E : A is from 1 : 1.3 to 1 : 1.7.

Derwent Class: Q22; Q23

International Patent Class (Additional): B62D-063/06; B62D-065/00; B62K-027/00

15/7/11 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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001728520

WPI Acc No: 1977-G5015Y/197731

**Trailer for use with \*bicycle\* - has drawbar formed of two pivoted portions lockable in desired position**

Patent Assignee: SPARKS C K (SPAR-I)

Number of Countries: 003 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4037853	A	19770726				197731 B
CA 1048076	A	19790206				197908
GB 1542539	A	19790321				197912

Priority Applications (No Type Date): US 76692666 A 19760604

Abstract (Basic): US 4037853 A

The trailer comprises a collapsible trailer body and a draw bar unit arranged at the forward end of the trailer body. The draw bar unit includes a first elongated portion \*pivotably\* interconnected with the \*trailer\* body, a second draw bar portion being pivotably interconnected with the first draw bar portion. The draw bar portions are lockable in a number of angled positions relative to each other and to the trailer body. The second draw bar portion includes a hitch at its unpivoted end arranged for interconnection with hitch receiver mounted upon the \*bicycle\*.

Derwent Class: Q11; Q22; Q23

International Patent Class (Additional): B60D-001/14; B62B-001/20; B62D-039/00; B62K-027/00

15/7/12 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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001478088

WPI Acc No: 1976-E0996X/197618

**Light trailer for two wheel vehicle - has two arms from vert \*trailer\* \*pivot\* to horiz vehicle pivot**

Patent Assignee: DESBORDE (DESB-I)  
Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2277716	A	19760312				197618 B

Priority Applications (No Type Date): FR 7423750 A 19740708

Abstract (Basic): FR 2277716 A

Light trailer has drawgear with a vertical pivot in front of the trailer and two bent arms, hinged at one end to the pivot and at the other end to the vehicle, so as to move in a horizontal plane. There are means of locking these arms to a chosen width at the vehicle. The arms are hinged below the level of the trailer floor. The vertical pin (3) can turn freely in two supports which can also form stops. The ends of the arms have holes through which passes a horizontal pin connecting the drawgear to the \*bicycle\*. Nuts secure the arms and can adjust height.

Derwent Class: Q11; Q22

International Patent Class (Additional): B60D-001/00; B62D-063/08

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